



Anthropometrics Characteristics and Physical Fitness of Private and Government School Boys of Lodhran, Punjab, Pakistan

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Abstract

This study is the comparison of the anthropometric and physical fitness of schoolboys. Data was collected from government (n = 125) and private (n = 125), ten -to- years old. An independent t-test was applied to compare stature, body mass, girths, lengths, push-ups, standing broad jump, agility and 30-meter dash. Results showed the private schoolboys were significantly superior to the government schoolboys in body mass, girths and inferior in 30-meter dash and agility. It is concluded the private school boys have a better option of food intake and transportation to reach school than the government schoolboys. Therefore, private school boys were higher in body mass and girths than the government schoolboys. It also concluded physical activity like walking play a vital role in the growth and fitness of schoolboys. Thus, it is suggested parents should focus on the growth and fitness of schoolboys by giving proper exercise time and a balanced diet.

Key Words: Anthropometry, Physical Fitness, Schoolboys, Lodhran, Physical Activities.

Introduction

The anthropometric methodology is used to estimate the physical status of peoples. A yearly anthropometric diagram in ordered to examine the change among school-going children. It is believed, the growth of children is associated with the financial status of their parents ([Khan, Singh, Hasan, & Zaheer, 1990](#)). Therefore, the anthropometric method is applied to estimates the growth of children and adults by considering their health status ([Pelemiš, Pelemiš, Dajana & Lalić, 2015](#)). The advancement of the anthropometry is to assess the body shape, growth a well as the changes from his childhood to adult age such as it signifies that how young can reduce their body fats and body weight through proper physical fitness program ([Guilherme, Molena, Guilherme, Fávero, dos Reis, & Rinaldi, 2015](#)), and how to perform their works without any fatigue ([Trembley, 2010](#)). Therefore, the proactive lifestyle of youth is a key to achieve admire fitness and health in their adulthood and older age ([Strong, Malina, Blimkie, Daniels, Dishman, Gutin, & Trudeau, 2005](#)). [Casajús, Leiva, Villarroya, Legaz, and Moreno \(2007\)](#) have uncovered that overweight childhoods with the age of 7-12year were lower in standing-broad jump, sit-ups, speed, and endurance than the average weight counterparts. On the other hand, the metabolic disorder and cardiopulmonary issues are related to the fitness and wellbeing approach of individuals as well as the community, which link which their childhood fitness ([Duarte-Rojo et al., 2018](#)).

The various types of physical activities at various age can get reflect on their social and psychological growth, along with higher advantages in their physiological health to their later life ([Pan, 2019](#)). There is an important connection amongst the instruction and co-curricular exercises to improv intellectual and comfort life activity,

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such as disposition, opulence, and particular gratification (White, & Kem, 2018). Normally a dynamic effort and sporting life reports are that the most comfortable way of life advancing in the childhood life in the conduct of physical activities for the improvement in real physical fitness (Well, 2012). As indicated by World Health Association that active work provides directions for grown-ups who took an interest in standard physical activities for 30 minutes three times a week, one fifty minutes for stretching in a week, which is a reason to the passionate physical movement for children as well as for the adult (WHO, 2019). Additionally, proper exercise with regularity can expand your life span; also, the commitment to work would be an incredible joy, happiness and fun for people of all age groups. Furthermore, ceaseless commitment to active work, educational activities and sports is probably going to improve the different physiological elements of the human body (Well, 2012). The critical results of having been not adequately fit to estimating physical fitness among secondary school students of ages between 10 to 15 Years have intensely influenced the people as well as the whole society in multi-dimensional viewpoint (Schinke, Stambulova, Si, & Moore, 2018). This has been seen in grown-ups that a deep relationship exists between education, and sports activities, for example, the large accuracy of grown-ups, their proactive tasks and wellness incited throughout the healthy way of life in children (Vitali, Robazza, Bortoli, Bertinato, Schena, & Lanza, 2019). Actual wellness can be communicated that an individual can intentionally finish an everyday schedule of exercises a functioning properly his good way of life (Nordenfelt, 2016). On the other hand, physical exercises routinely could put-on pointless weight, it might increase his body mass index human (Andersen, Cohn, & Holbrook, 2010; Monaghan, 2008; Vogel, 2013).

There is a lack of study in Pakistan to evaluate the anthropometric status and physical health of schoolboys. Subsequently, this examination was led to evaluate the government and private school boys of 10 -to- 13 years of Lodhran City, Pakistan. It was hypothesized that the private and government boy students would be homogenous in their anthropometric measures and fitness. The significant focal point of the examination is to expand the exploration in the cooperation of anthropometric measures and physical fitness of the schoolboys. The targets of the examination are to explore the actual wellness level of the understudies and to discover the health status of urban and rural children in Lodhran city.

Methods and Materials

Two hundred fifty boy students ($n = 125$) from private schools and ($n = 125$) from government schools within the age between ten -to- thirteen years old schoolboys. Data were obtained from 4 government and 4 private schools in Lodhran City, Punjab, Pakistan. All anthropometric measurement data was compiled inside the indoor hall of the schools with the permission of the school administration. The approval for data collection was obtained from the district education officer of Lodhran. The willingness to participate in the research process was obtained from all the participants, which show their volunteer participation in this research. Before the start of data collection, the procedure and purpose of data collection were briefly discussed with the school teachers in front of the selected participants of the study. During the data collection, two assistants and a school teacher were present inside the indoor hall to assist in the data collection process. The physical fitness data was obtained in the outdoor sports ground.

Procedure and Instruments

The information was gathered by estimating the weight, stature, calf bigness, arm size (unwind and flex), hip and thigh girth. All anthropometric estimations were made by utilizing various instruments such as estimating tape, advanced weight scale, and sliding callipers for bone lengths. One meter estimating tape was utilized to measure the upper arm, lower arm, chest, waist, hip this and calf girths. All estimations were directed and followed by the anthropometric manuals (Kamal, 2006; Marfell-Jones, Stewart, & De Ridder, 2012). There were three experts involved in estimating all anthropometric measurements. All participants wore a light dress without shoes. All anthropometric measures were taken with the position of the loose and erect stance of the participant. For measurements, every understudy situated erect on a level even surface, with erected knees at one hundred and eighty-degree angle, and feet level on a superficial level, looking ahead, and arms hanging adjacent to the body. Tallness was estimated by utilizing a stadiometer. The height was estimated by adopting the centimetre unit of measurement. This measurement was considered from the ground surface to the upper or top of the head

of the participants. This estimation was resolved from the outside of the stadiometer and to the vertex most noteworthy purpose of the skull of the human body. Weight was estimated by utilizing the computerized standing scale. The participants were instructed to be in a standing position at the weight scale in a relaxed position. The pressure of the upper body should be equally distributed at both feet. The weight measurement was recorded in a kilogram.

The girths of various body segments as the upper arm, lower arm, chest, waist, hip thigh and calf was estimated by using a one-meter measuring tape. The position of participants was to stand straight and relax. The upper arm flex was measured as the participant was instructed to flex his arm as maximum as possible at the ninety-degree angle. On the other hand, the relaxed upper arm was estimated by falling his arms at the natural standing position. The forearm measurement was taken as the maximum point. The chest girth was estimated at the maximum point of the chest. The waist girth was estimated at the minimum measurement above the hips of the participants. The hip, thigh and calf girths were obtained at the maximum point. All the measurement of girths were recorded in centimetres.

A sliding calliper was utilized for the estimations of bone lengths of the upper arm, lower arm, complete arm, upper leg, lower leg, absolute leg. The base perusing model for lengths was resolved at 0.1cm. The members were in an upstanding standing position. The upper arm length was obtained from the shoulder joint to the elbow joint. The lower arm from the elbow joint to the wrist joint. The total arm length was recorded from the shoulder joint to the tip of the middle finger. The upper leg length was recorded from the hip joint to the knee joint, lower leg length from the knee joint to the ankle joint. The total leg length was recorded from the hip joint to the surface of the ground. All measurements of girths were recorded in centimetres, with the minimum recording from 0.1 cm. A scale outline was stuck on a level plane at the divider to quantify the arm range—the arm range estimated in the full extended situation of arms and from option to left dactyl-particle. The participants were instructed to be in a standing position with fully stretch their arms at the wall. This measurement was also recorded in centimetres.

The crisscross T-test was taken to take a gander at the deftness of schoolboys. The participants were instructed to start running from, in the first place cone toward the straight cone, by then turned got out, by then directly to right side cone, re-visitation to cone and finally re-visitation of the starting point. The part was asked to sit on the floor, expand straight his legs by contacting her cost to the wooden box, push the sliding check at the wooden box as removed as possible without bowing knees. The assessments were recorded in centimetres. The execution of the standing wide jump was taken a gander at as individuals remain at a line, stepped on the ground with feet barely isolated, flex their body, swing their arms, and finally ricocheted forward with flimsy control. The estimating tape was used to measure the eliminate of jumped in meters. A 30-meter run was estimated with remaining to start to take a gander at speed. Ordinarily, the portrayal of 30m run tests was estimated in seconds. The time was recorded from the prompting of development from the beginning stage to the end goal. The 10 x 5-m transport runways recorded by utilizing 5 x 10-m transport run in the accompanying of the past investigation for agility testing (Nakata, Nagami, Higuchi, Sakamoto, & Kanosue, 2013). A nimbleness test was controlled by the particular crisscross run of a subject; for example, three lines were set apart with 5 meters. Readiness times were recorded by utilizing a computerized stopwatch. The clock started as a competitor to start his development and halted.

With the long-standing bounce, the subjects were in a standing situation behind the beginning line and hop-forward quite far. The separation from the beginning line to the impact point of the nearest foot was recorded, estimations were recorded in centimetre ([Kohmura, Aoki, Yoshigi, Sakuraba, & Yanagiya, 2008](#)). All measurements of running as zig-zag run for agility, speed tests with 30 metres dash were recorded in second and standing broad jump in meters and push-ups in numbers.

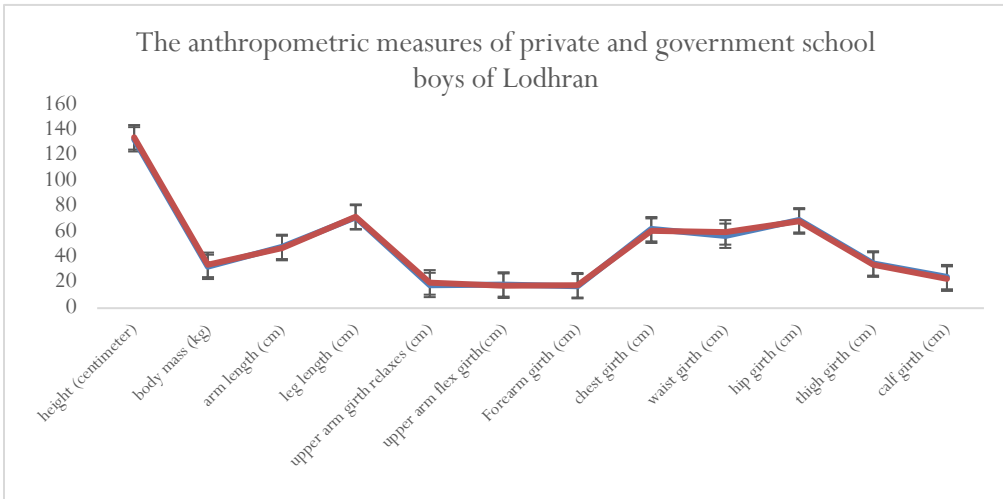
Statistical Analysis

This was a cross-sectional study in nature, and a convenient sampling method was adopted for data collection. The reliability and validity of all measurements were obtained by considering intra- investigator reliability. The coefficient correlation tests were applied to obtain the values of reliability. The score of all variables was acceptable as guided by ([Kamal 2006](#); [Marfell-Jones, Stewart, & De Ridder, 2012](#)). Descriptive statistics means

and standard deviations were obtained. And an independent *t*-test was applied for statistical analysis of all variables. The alpha value $P < .05$ was applied to obtained for significance value. All assumption of the independent *t*-tests was followed as guided by (Field, 2013). Then this data was transferred to the SPSS to find the normality by applying the Q-Q plot test for the data normality. All data was transferred to the excel spreadsheet to examine their normality and chek the outlier. The SPSS software was used for statistical analysis.

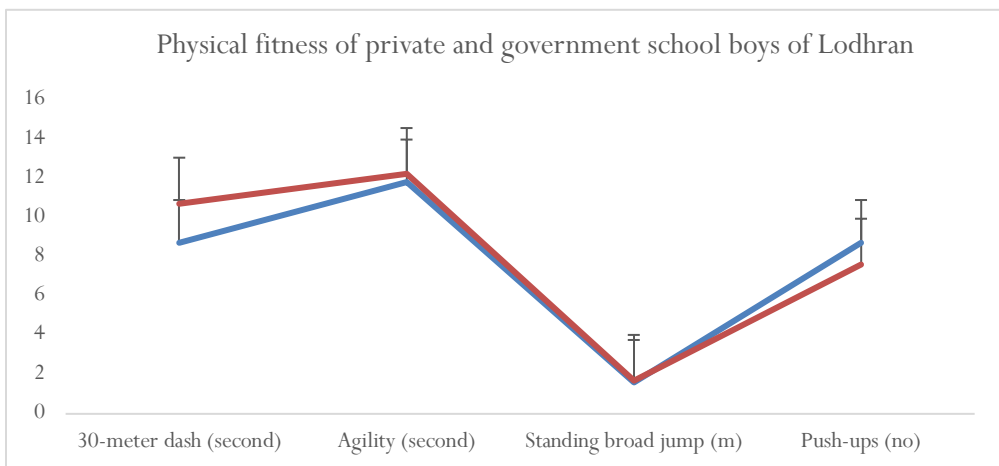
Results

This study is the comparisons of the anthropometric measure and physical fitness of the private and government schoolboys of the district Lodhran. The data was obtained from private and government schoolboys.



The level of significance was adjusted at $P < .05$

Figure one shows there was a significant difference between private school and government schoolboys in body mass $t = -2.18, P < .04$, waist girth $t = -2.05, P < .05$ calf girth $t = -4.20, P < .00$. The private schoolboys were higher in calf girth than governments schoolboys.



The level of significance was adjusted at $P < .05$

There was a significant difference between private and government schoolboys in 30-meter dash $t = -1.94$, $P < .05$ and agility test $t = -2.41$, $P < .01$. The private schoolboys were slower in the 30-meter race and agility run than the government boys. On the other hand, there was no significant difference among private and government schoolboys in their capacity of standing broad jump.

Discussion

The inspiration is driving the examination to measure the anthropometric assessment and fitness of government and private boy students of Lodhran City, Punjab, Pakistan. The assessments consolidate body mass, tallness, weight, leg length, upper arm, extricate up upper, arms flex, sizes, thigh bigness, and calf size. Private schoolboys were strong than the government schoolboys; they have an unequal eating routine. The results of the present study confirm the finding of ([Strong et al., 2005](#)). The waist and calf perimeter of private school boys were more noteworthy than the government. Private schoolboys are better than government schoolboys since their versatile body bodies. The educational cost-based school youngsters and government understudies are almost the reciprocals because instinct-based schools, each gathering and sports undertaking and non-state funded school youngsters have a spot with rich families with an unrivalled eating routine, put their energy in games. Of course, youngsters of government schools have less an ideal occasion to play any game. The findings of this study confirm the finding of ([Haq, Iqbal, Afzal, Ahmad, Abbas, & Yaqoob, 2019](#)). As demonstrated by government schools' norms, there were no real sports instructors, and no spending intend to arrange such a game a lot in schools. The findings of the present study are supported by the finding of ([Pion, Segers, Franssen, Debuyck, Deprez, Haerens, ... & Lenoir, 2015](#); [Singh, Singh, & Singh, 2017](#); [Sanchora, & Rawal, 2019](#)) that the private school students were higher in their body composition than the government school students. The main factor behind that the private school are expensive and those children would be a student whose parents can afford their expenses. They would find good food intake and school transports. As a result, their body composition remains higher than the government school children. In contrast, the government school boys are less in body composition but higher in the physical fitness component because their parents could provide school transports; as a result, they have to reach school through the walk. This physical activity is associated with physical fitness. The findings of this study are supported by the findings of ([Singh, Singh, Singh, & Singh, 2017](#); [Ahlawat, 2018](#); [Vinu, 2019](#)) that the private school students were inferior in their physical fitness capacity to the government school students. Therefore, the private participate less in physical activities than the government, which results in to reduce their physical fitness abilities than the government school children.

Conclusion

This study is the comparison of private and governments schoolboys of the district Lodhran. This comparison consists of body composition and physical fitness. The finding of the presents study showed the private school boys were superior in their body compositions and inferior in their physical fitness than from the government schoolboys. This finding depicts the socio-economic background of both private and governments schoolboys. The government school are funded by the provincial government of Punjab were less economically strong children's studies. In contrast, private school are expensive; the school administration fulfils their expensive from the fee of students. This comparison also exists among this student inform of their body composition and physical fitness. The findings of this study also supported by the finding of other countries ([Singh, Singh, Singh, & Singh, 2017](#); [Ahlawat, 2018](#); [Vinu, 2019](#)) that the private school boys higher in body composition and lesser in physical fitness.

Unmistakably, the adolescent years are the main lifetime frame for regular effects like economic factors. Dynamic work seems to expect a basic occupation of influencing the headway of adolescents. Our results for sure demonstrated the criticalness of especially orchestrated and effective real guidance and sports in schools. General prosperity underpins proactive errands and corrects the points of view on ideal body tallness, and strategy could address a fitting contraption for the assessment and see of these genuine assortments. Negative characteristics got for an endomorph part in Lodhran kids require a point-by-point assessment study to find a mix-up has proposed. Similarly, to make equal opportunities for advancement and real capability for youngsters, it is ideally monetary and socio-political over a natural human issue. A perception of the ethnic qualification being developed is major

to perceive how much a single reference can be applied worldwide in the field of sustenance, epidemiological, and clinical assessments. The proposition to improve the prosperity status of the more youthful understudies Health guidance, singular tidiness preparing, food tutoring may be made as an element of the instructive school arrangement isolated from the typical informative activities in the organization. Improvement of home neatness and prosperity organizations. Helping to dejection. Better school prosperity organizations may be orchestrated periodically for more youthful understudies. Making of close by new food. Guaranteed water supply, better waste workplaces, ordinary rubbish opportunity are to be done.

Future Recommendations

Considering the discoveries of the current investigation, the accompanying suggestions are made to teachers and parents. The consequence of the examination can be utilized by the mentors and actual instruction educators for screening and determination of the school children to observe their health and growth status. It is suggested that a comparable report might be directed by choosing an alternate age, stature gatherings, and level of accomplishment. To improve the norm of anthropometric profile and physical fitness to be dispatched extraordinarily for the rustic regions. It depends on their anthropometric and fitness.

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